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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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08/737,042    10/30/96    HEED

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EXAMINER
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DVORAK AND TRAUB  
53 WEST JACKSON BOULEVARD  
CHICAGO IL 60604

LEO, L

ART UNIT	PAPER NUMBER
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3743

*21*

DATE MAILED:

05/22/00

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.  
08/737,042

Applicant(s)

Heed

Examiner

Leonard R. Leo

Group Art Unit ,  
3743



☒ Responsive to communication(s) filed on Apr 19, 2000

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claims

☒ Claim(s) 5 is/are pending in the application.

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 5 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been  
☐ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☐ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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The request filed on April 19, 2000 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 08/737,042 is acceptable and a CPA has been established. An action on the CPA follows. Claim 5 is pending.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Davis in view of Jenssen.

Davis discloses a recuperative heat exchanger comprising a casing defined by walls 11-16 having inlet and outlet ports 21, 21', 18, 22; a heat transfer package 30, 31 having a plurality of connected rectangular planar elements 36 with corrugations extending the entire length and width thereof, the planar elements being folded in an accordion-like manner; but does not disclose adjacent planar elements forming a crossing pattern with the corrugations.

Jenssen discloses a heat exchanger comprising a casing defined by parts 1, 2 having inlet ports 6-9; a heat transfer package 3 having a plurality of connected rectangular planar elements 36 with corrugations 13b extending the entire width thereof, the planar elements being folded in an accordion-like manner; wherein the corrugations 13b extend at an angle

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greater than 45 degrees with respect to the net flow path for the purpose of increasing flow resistance to improve heat exchange.

Since Davis and Jenssen are both from the same field of endeavor and/or analogous art, the purpose disclosed by Jenssen would have been recognized in the pertinent art of Davis.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Davis corrugations extending at an angle greater than 45 degrees with respect to the net flow path for the purpose of increasing flow resistance to improve heat exchange as recognized by Jenssen.

The rejections under 35 U.S.C. 112, first and second paragraphs are withdrawn in view of applicant's amendment to the claim.

The rejection in view of Hultgren is withdrawn.

Regarding applicant's remarks, the claims recite a "fluid medium," where gases and liquids are well known fluids in heat transfer environments. The combination of Davis and Jenssen teaches to one of ordinary skill in the art a device similar in structure and function to applicant's instant invention as claimed.

Any inquiry concerning this communication should be directed to Leonard R. Leo whose telephone number is (703) 308-2611.



LEONARD R. LEO  
PRIMARY EXAMINER  
ART UNIT 3743

May 19, 2000